Contribution ID: **60** Type: **Talk**

The Accelerator Neutrino Neutron Interaction Experiment

Friday, 5 August 2022 15:05 (15 minutes)

The Accelerator Neutrino Neutron Interaction Experiment (ANNIE) is a 26-ton Gadolinium-loaded water Cherenkov detector located at the Booster Neutrino Beamline at Fermilab. One of the primary physics goals is to measure the number of final-state neutrons from neutrino-nucleus interactions in water. This measurement will improve our understanding of these complex interactions and help reduce the associated systematic uncertainties, thus benefiting the next generation of long-baseline neutrino experiments. ANNIE will achieve its physics goals by using recently developed photodetectors, the Large Area Picosecond Photodetectors (LAPPDs), with better than 100 picosecond time resolution. This talk will present the status of the experiment, the deployment of LAPPDs, the event reconstruction techniques, and the analysis result of the most recent neutrino beam data. ANNIE's Future R&D opportunities demonstrating the use of Water-based Liquid Scintillators as a new neutrino detection medium will also be discussed.

Attendance type

In-person presentation

Presenter: WANG, Jingbo

Session Classification: WG2: Neutrino Scattering Physics

Track Classification: WG2: Neutrino Scattering Physics